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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/641,123 08/16/00 AWERBUCH

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007470  
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IM52/1003

EXAMINER

FORTUNA, A

ART UNIT

PAPER NUMBER

1723

DATE MAILED:

10/03/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
09/641,123

Applicant(s)  
Awerbuch

Examiner  
Ana Fortuna

Art Unit  
1723



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Aug 16, 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above, claim(s) 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 24-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 and 7 20) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. Claims 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, the term 'desalination system is unclear as to what is intended is intended, since a desalination system can be constitute only by membranes in series, natural evaporation, etc.\
2. The drawings are objected to because Figures 1-2 do not cleanly show the mixing of softened salt water with the untreated salt water. Correction is required.
3. ~~Claims 1, 2, 3, 5, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9131260 (JP).~~

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. Claims 1-22, 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9131260 (JP) in view of Applicant's admissions. Claim 1 admits that blending the softened water

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with untreated salt water is conventional in the art, (Jepson claims). Reference 'JP teaches area water desalination process including treating sea water to a softening membrane, e.g nanofiltration membrane, and passing permeate from the nanofiltration membrane to a reverse osmosis membrane (abstract). Desalting water alone with reverse osmosis membrane or series of reverse osmosis membranes is well known in the art. Reference J P provides a pretreatment for the desalination system or RO membrane. It would have been obvious to one skilled in the art at the time the invention was made to use the blend of softened water and untreated salt water as feed for a reverse osmosis membrane, for the same purpose of producing potable water or desalted water, since reverse osmosis itself desalts water at high concentration, the milder in concentration, better results can be expected, since membrane clogging is reduced. Regarding claims 4 and 6 the evaporation processes claimed are conventional in the art for desalting sea water, its use for concentrating concentrate from reverse osmosis is also conventional as shown in the prior art of record.

Regarding claim 11, the operation conditions of the nanofiltration membrane are within conventional suggested operation ranges, which are lower than pressure used for reverse osmosis. Storing softened water prior to passing to the reverse osmosis membrane it would have been obvious to one skilled in the art, e.g for performing continuous or discontinuous filtration with the reverse osmosis membrane. As to claim 17, brine or <sup>retentate</sup> ~~redounded~~ is expected to be produced with the reverse osmosis membrane. Combination of pretreatment, e.g. cartridge filtration, pH

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adjustment, and nanofiltration itself are conventional reverse osmosis pretreatment to remove or prevent fouling of the reverse osmosis.

6. Claims 23 and 11 are objected to under 37 CFR 1.75© as being in improper form because a multiple dependent should refer to others claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claim is not been further treated on the merits.

a.Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana Fortuna whose telephone number is (703) 308-3857. The examiner can normally be reached on Monday-Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached on (703) 308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for regular responses, and (703)872-9311 for after finals.

Ana Fortuna

October 1, 2001



ANA FORTUNA  
PRIMARY EXAMINER